

CLAIMS

What is claimed is:

- 1 1. In a modular computer system environment, a method for enabling system-wide
2 intercommunication among a plurality of publish and subscribe components coupled to nodes of
3 a central information bus configuration (CIBC), said method comprising:
4 modeling publication data within a publication object that includes said data and an
5 identifier (ID) indicating a type of data within said publication object, wherein said publication
6 data is provided in a pre-established format consumable/recognizable by any one of said
7 subscribe components;
8 receiving subscriptions from one or more of said subscribe components for said
9 publication data; and
10 when said publication object is published on said central information bus, directing an
11 issuance of said publication data to said one or more subscribe components via directed
12 broadcast.
- 1 2. The method of Claim 1, further comprising:
2 modeling said subscriptions as a subscription object that includes a request for the
3 particular type of data and a node ID for the node at which the subscription object is generated;
4 wherein, said request includes the ID of the type of data; and
5 wherein said subscription is received from said node indicated by said node ID and said
6 publication data is issued to said node.
- 1 3. The method of Claim 2, said receiving step further comprising:
2 registering the request for said data in a registration facility of said CIBC; and
3 comparing the ID for each publication object against the request ID in said registration
4 facility; and
5 signaling a match of said IDs and identifying a node for which said publication data is to
6 be sent.

1 4. The method of Claim 1, further comprising:
2 placing said publication object in a queue prior to issuing said publication data to said
3 one or more subscribing component; and
4 issuing said publication data from said queue when said publication object reaches a top
5 of said queue.

1 5. The method of Claim 4, wherein said publication object further comprises a priority
2 value, said placing step further comprising:
3 arranging each publication object within said queue according to the priority value of
4 each publication object;
5 when two objects contain a same priority value, arranging said two objects according to a
6 time on entry into said queue, whereby a first incoming object is placed ahead of a second
7 incoming object within the queue; and
8 issuing said publication data according to a sequential order of the publication object
9 within the queue relative to other publication objects.

1 6. The method of Claim 4, wherein:
2 said publication object comprises a freshness level indicator; and
3 said method further comprises:
4 determining prior to issuing said publication data whether said publication object
5 is stale; and
6 when a queued publication data is stale, triggering a publication of a current
7 publication data from the publish component and discarding the queued publication data.

1 7. The method of Claim 6, wherein said freshness level indicator is a timestamp and said
2 publication object further comprises a function that enables said determining and triggering steps
3 to be completed.

1 8. The method of Claim 2, wherein said request within said subscription object further
2 comprises an expression delimiter that indicates particular criteria to be met for a publication
3 data to satisfy said request.

1 9. The method of Claim 1, wherein said CIBC is an information kit and said publication
2 object and subscription objects are information kit objects.

1 10. The method of Claim 9, wherein at least one of said subscribe component and said
2 publish component is an agent that completes a secondary function upon receipt of said
3 publication data.

1 11. In a modular computer system environment, a system for enabling system-wide
2 intercommunication among a plurality of publish and subscribe components coupled to nodes of
3 a central information bus configuration (CIBC), said system comprising:

4 means for modeling publication data within a publication object that includes said data
5 and an identifier (ID) indicating a type of data within said publication object, wherein said
6 publication data is provided in a pre-established format consumable/recognizable by any one of
7 said subscribe components;

8 means for receiving subscriptions from one or more of said subscribe components for
9 said publication data; and

10 means, when said publication object is published on said central information bus, for
11 directing an issuance of said publication data to said one or more subscribe components via
12 directed broadcast.

1 12. The system of Claim 11, further comprising:

2 means for modeling said subscriptions as a subscription object that includes a request for
3 the particular type of data and a node ID for the node at which the subscription object is
4 generated;

5 wherein, said request includes the ID of the type of data; and

6 wherein said subscription is received from said node indicated by said node ID and said
7 publication data is issued to said node.

1 13. The system of Claim 12, said means for receiving further comprises:
2 means for registering the request for said data in a registration facility of said CIBC; and
3 means for comparing the ID for each publication object against the request ID in said
4 registration facility; and
5 means for signaling a match of said IDs and identifying a node for which said
6 publication data is to be sent.

1 14. The system of Claim 11, further comprising:
2 means for placing said publication object in a queue prior to issuing said publication data
3 to said one or more subscribing component; and
4 means for issuing said publication data from said queue when said publication object
5 reaches a top of said queue.

1 15. The system of Claim 14, wherein said publication object further comprises a priority
2 value, said means for placing further comprising:
3 means for arranging each publication object within said queue according to the priority
4 value of each publication object;
5 means, when two objects contain a same priority value, for arranging said two objects
6 according to a time on entry into said queue, whereby a first incoming object is placed ahead of a
7 second incoming object within the queue; and
8 means for issuing said publication data according to a sequential order of the publication
9 object within the queue relative to other publication objects.

1 16. The system of Claim 14, wherein:
2 said publication object comprises a freshness level indicator; and
3 said system further comprises:
4 means for determining prior to issuing said publication data whether said publication
5 object is stale; and

6 means, when a queued publication data is stale, for triggering a publication of a current
7 publication data from the publish component and discarding the queued publication data.

1 17. The system of Claim 16, wherein said freshness level indicator is a timestamp and said
2 publication object further comprises a function that enables said means for determining and
3 triggering.

1 18. The system of Claim 12, wherein said request within said subscription object further
2 comprises an expression delimiter that indicates particular criteria to be met for a publication
3 data to satisfy said request.

1 19. The system of Claim 11, wherein said CIBC is an information kit and said publication
2 object and subscription objects are information kit objects.

1 20. The system of Claim 19, wherein at least one of said subscribe component and said
2 publish component is an agent that completes a secondary function upon receipt of said
3 publication data.

1 21. A computer program product for use within a modular computer system environment,
2 said program product comprising:

3 a computer readable medium; and

4 program codes on said computer readable medium for enabling system-wide
5 intercommunication among a plurality of publish and subscribe components coupled to nodes of
6 a central information bus configuration (CIBC), said program code further comprising code for:

7 modeling publication data within a publication object that includes said data and
8 an identifier (ID) indicating a type of data within said publication object, wherein said
9 publication data is provided in a pre-established format consumable/recognizable by any
10 one of said subscribe components;

11 receiving subscriptions from one or more of said subscribe components for said
12 publication data; and

13 when said publication object is published on said central information bus,
14 directing an issuance of said publication data to said one or more subscribe components
15 via directed broadcast.

1 22. The computer program product of Claim 21, further comprising code for:
2 modeling said subscriptions as a subscription object that includes a request for the
3 particular type of data and a node ID for the node at which the subscription object is generated;
4 wherein, said request includes the ID of the type of data; and
5 wherein said subscription is received from said node indicated by said node ID and said
6 publication data is issued to said node.

1 23. The computer program product of Claim 22, said receiving step further comprising code
2 for:
3 registering the request for said data in a registration facility of said CIBC; and
4 comparing the ID for each publication object against the request ID in said registration
5 facility; and
6 signaling a match of said IDs and identifying a node for which said publication data is to
7 be sent.

1 24. The computer program product of Claim 21, further comprising code for:
2 placing said publication object in a queue prior to issuing said publication data to said
3 one or more subscribing component; and
4 issuing said publication data from said queue when said publication object reaches a top
5 of said queue.

1 25. The computer program product of Claim 24, wherein said publication object further
2 comprises a priority value, said code for completing said placing step further comprising code
3 for:
4 arranging each publication object within said queue according to the priority value of
5 each publication object;

6 when two objects contain a same priority value, arranging said two objects according to a
7 time on entry into said queue, whereby a first incoming object is placed ahead of a second
8 incoming object within the queue; and
9 issuing said publication data according to a sequential order of the publication object
10 within the queue relative to other publication objects.

1 26. The computer program product of Claim 24, wherein:
2 said publication object comprises a freshness level indicator; and
3 said computer program product further comprises code for:
4 determining prior to issuing said publication data whether said publication object
5 is stale; and
6 when a queued publication data is stale, triggering a publication of a current
7 publication data from the publish component and discarding the queued publication data.

1 27. The computer program product of Claim 26, wherein said freshness level indicator is a
2 timestamp and said publication object further comprises a function that enables said determining
3 and triggering steps to be completed.

1 28. The computer program product of Claim 22, wherein said request within said
2 subscription object further comprises an expression delimiter that indicates particular criteria to
3 be met for a publication data to satisfy said request.

1 29. The computer program product of Claim 21, wherein said CIBC is an information kit and
2 said publication object and subscription objects are information kit objects.

1 30. The computer program product of Claim 29, wherein at least one of said subscribe
2 component and said publish component is an agent that completes a secondary function upon
3 receipt of said publication data.